Competitor timing information affects nest site selection in a migratory bird

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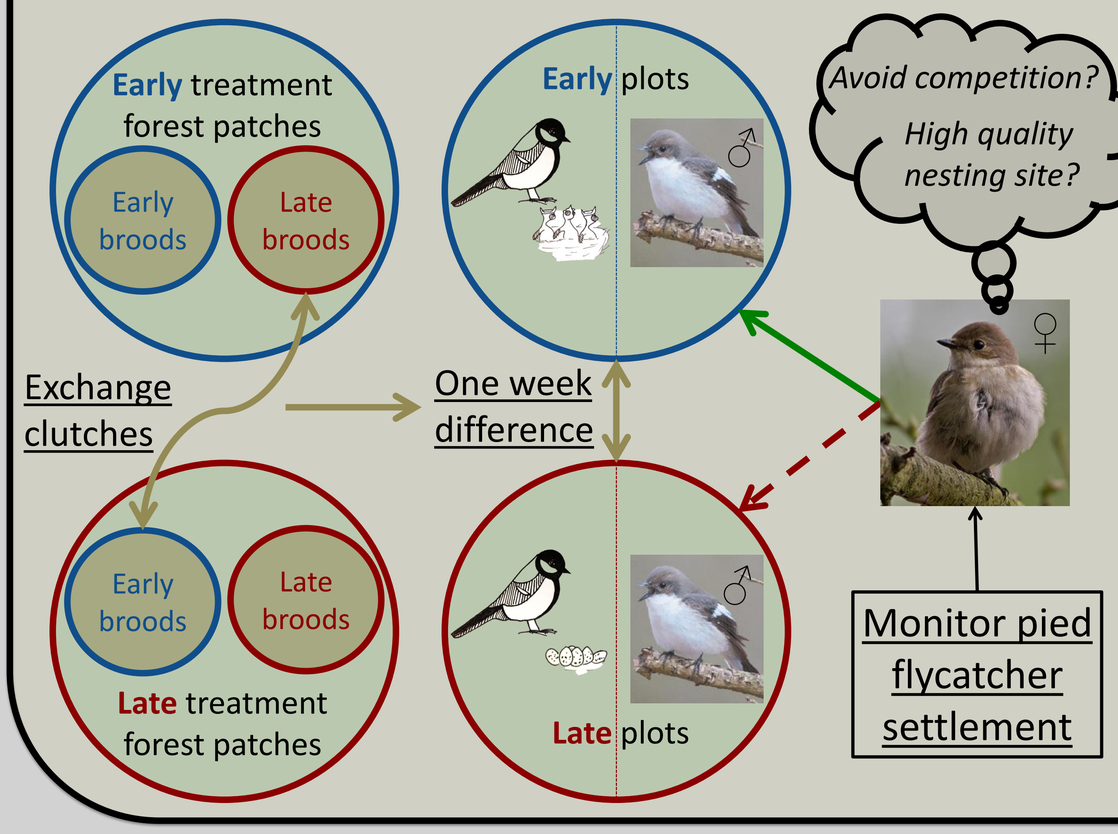
INTRODUCTION

The costs of competition should lead to competitor avoidance. However, science has shown that animals may *prefer* settling near competitors to benefit from information about habitat quality. High quality habitat may translate to higher densities and reproductive success, but also to earlier reproductive timing. The former two have been studied as social cues, but competitor phenology has not. Climate change advances phenologies across trophic levels, so it is key to understand how it could affect temporal social cues.

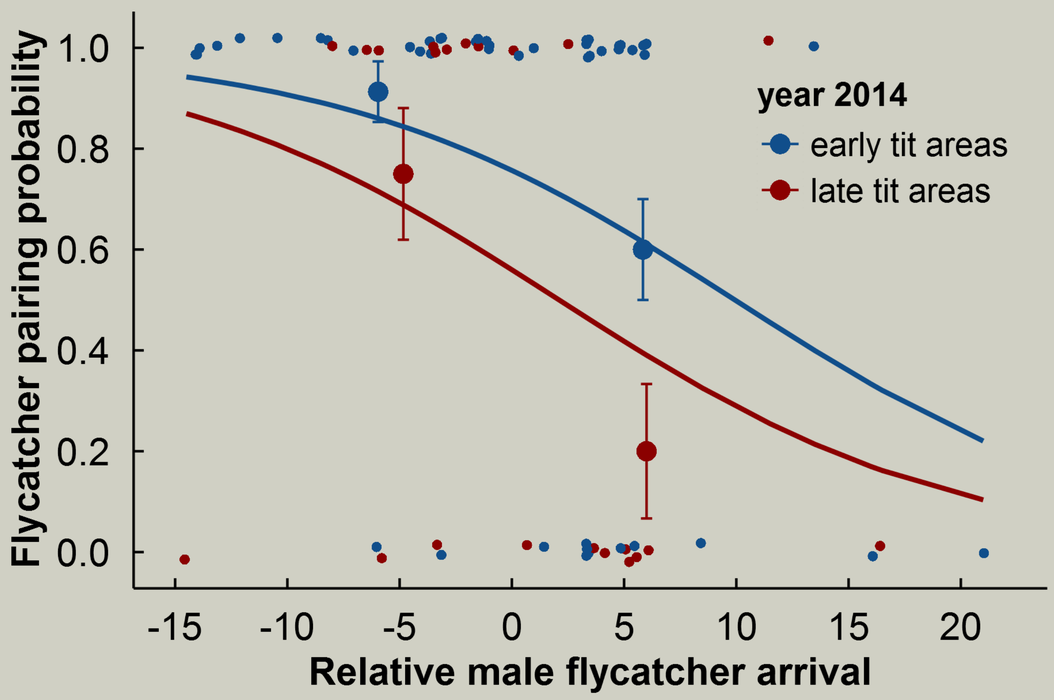
AIM

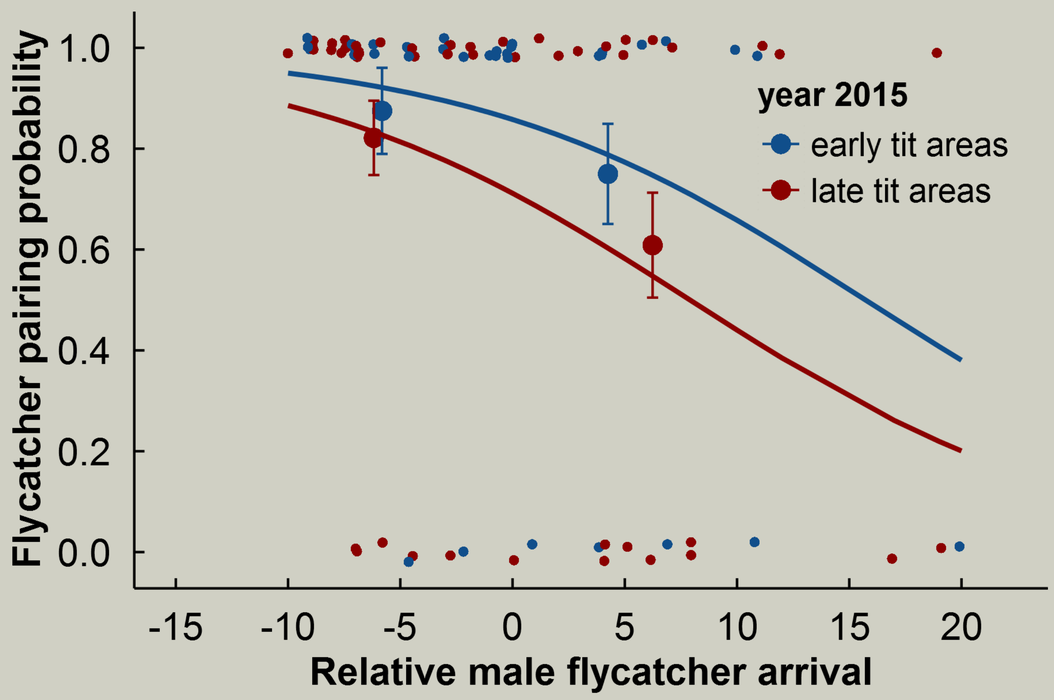
To uncover whether the phenology of an interspecific competitor (great tit *Parus major*) affects nest site choice in a migratory bird (pied flycatcher *Ficedula hypoleuca*)

TIMING MANIPULATION GREAT TITS



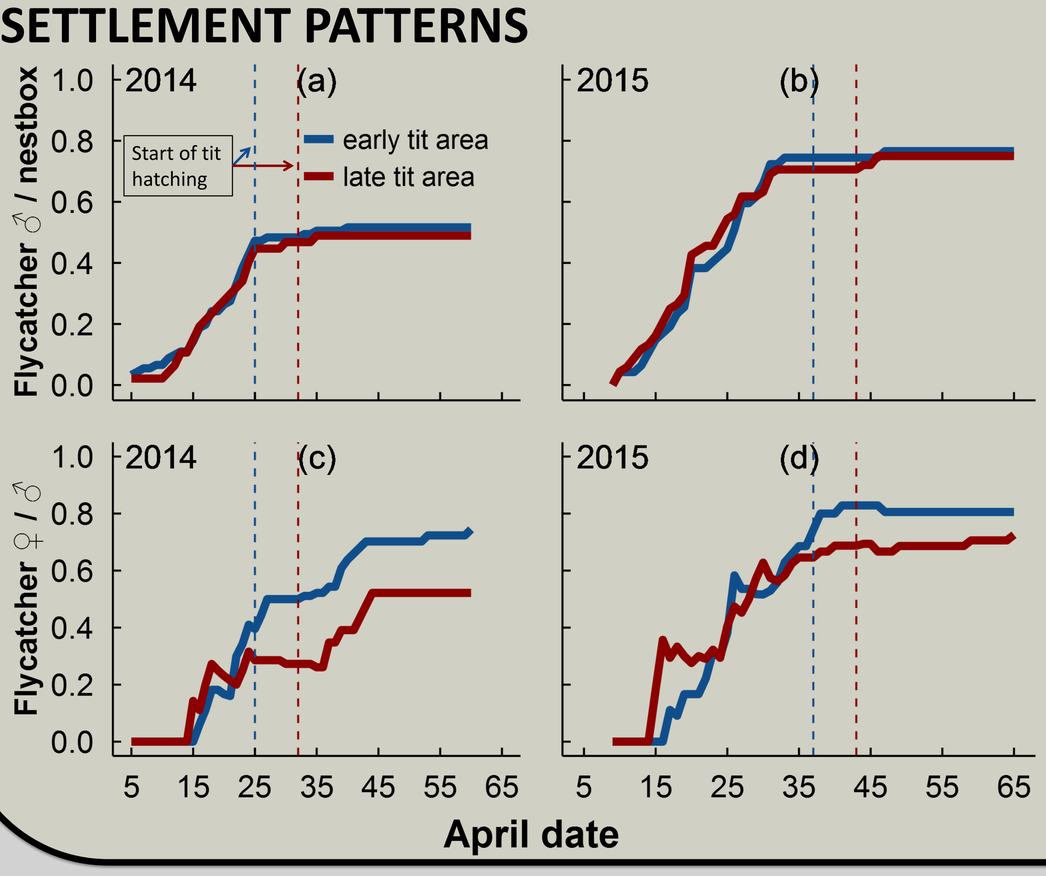
RESULTS — Female flycatchers more likely to settle with male in early tit treatment ($p < 0.03$)





Generalized linear mixed model: male p() to get a female ~ tit treatment + arrival date + year + (1|plot) + (1|maleID)

SETTLEMENT PATTERNS



DISCUSSION

We show that heterospecific timing is used as a social cue in nest site selection of a migratory bird. Female flycatchers were more likely to choose a male in sites where great tit phenology was advanced, but males chose randomly with regard to our experiment, as they had already arrived before experimentally induced timing information was available to them.

The preference of flycatchers for forest patches with early heterospecific competitors can be understood in two ways. First, food may be more abundant in patches where great tits breed earlier. Second, flycatchers may experience less competition in patches where they overlap less in time with great tits. Future research could focus more on temporal dimensions of competition and information use.

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Great tit drawings: Marion Nicolaus; pied flycatcher photos: Richard Ubels